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IRVING WLADAWSKY-BERGER: We're still in the session on formulating a market strategy. We'll finish that section today and then go on to the execution of the market strategy and the marketplace. And let me just remind you, we are talking about market strategies based on disruptive technologies. And as we discussed two sessions ago, seminar two, there are sustained or incremental innovations which are very, very important.

But this style of dealing with incremental innovations and bringing them to market is somewhat different than dealing with disruptive innovation. And it's not one is better than the other. We'll talk about it at the end or the next session. You need to do both. But I really do want to focus on disruptive innovations. And of course, we talked about-- somebody said, well, what the hell do you mean by disruptive innovation? Maybe exhibit A is the internet and world wide web. And what happened when it hit the commercial markets in the mid-1990s, and, of course, our guest speaker John Patrick talked a lot about this.

And two seminars ago, just to recap, we talked about, as we were making the decisions in IBM, whether to organize our internet strategy. We asked a number of key questions. Is the technology advanced enough? Is the marketplace ready for it? Are there other competitors out there that if we don't go out, they'll run with the market? And what are our clients saying? And the reason we embraced the internet so aggressively is because, to be honest, we didn't have a choice. I mean, we loved it also, but it would have been dumb not to do that.

The scope was absolutely taken off in the marketplace, especially after the Netscape IPO. There was this incredible excitement. There were already serious competitors out there-- some established ones like Sun, other new ones like Netscape. And then our clients were starting to experiment with the internet, and we didn't want to be left out of that. So we said, let's go.

So these are the topics I'd like to discuss in this seminar. And the first three is based on the-- yes, please.

AUDIENCE: So I don't know what the vision of IBM is, but as newer technologies come in, how does that change-- because you have a focus there based on whatever the mission is. How do you transform that and still keep the mission the same?

IRVING WLADAWSKY-BERGER: Well, first of all, you're asking a really deep question, which is no business can afford to chase every technology. So you need to make-- and we'll talk about some of the things today and next time-- when you see something, you need to decide is this one that we should pursue, or is this one that is not within our core business? And we'll talk about some things. But let me give very concrete examples.

For a long time, IBM was very involved in large commercial systems. We were not involved in supercomputing. That is scientific computing systems. Part of it is antitrust, things that happen in the late '60s with companies, CDC, and so on that you never heard of. And some of you may have heard them, but they no longer exist. And for a long time, IBM kept growing and growing and growing, ignoring the supercomputing market. Eventually, we decided that we were missing a lot of advances in large computing by not being supercomputing because a lot of the leading-edge computing advances first showed up in supercomputing systems. And then a few years later, they percolated into commercial systems-- parallel architectures is an example.

So we decided we now need to do that. But it was thought out that way. And we can go through that kind of reasoning with a whole set of things.

But let's take the iPod. You can say, well, my god, the iPod has computing inside. The iPod is a little computer. You guys are in the computer business. How come you're not in the iPod business? Well, the main reason is that the iPod is really a consumer market, not an enterprise or business market. And IBM is primarily a company that deals with institutions, commercial institutions, educational, health, government, but not with people as individuals.

And it's a fascinating question. If you guys are good, why aren't you good here and good here? Every time we try to do something here, we're really lousy at it. I mean, we just are. I mean, it's very difficult for reasons, some of which I can talk about hypothetically, and some that are mysterious, that it's very hard to be good at everything. And it gets back to culture discussions.

And we talked last time, and we'll talk throughout that if you have a certain culture-- for example, we have a culture of dealing with enterprises, and I'm including MIT as an enterprise, but if a client is unhappy the computers aren't working, you immediately react. You send people. You fix it. Because the reason the commercial clients want to do business with you is the kind of service you give them. Well, in the consumer world, if you try to behave that way, you lose your shirt. You cannot do that. So you can say, well, screw them. Then, in the consumer world, we don't care. But if your culture is here, you end up doing more here than you should or can afford to and you end up not doing it well. So iPod-- it's not our problem, not our thing.

And every company-- and what we're talking about is such much the essence of business strategy. And we'll get into this right now, actually, when we talk about organizational capabilities. You have to know what you're good at. And now, can you change and be good at something different? Very carefully. And especially, if I may use sports analogies, maybe if you're playing in college, you can be both in the baseball team and in the basketball team. And in fact, a lot of college athletes play multiple sports-- baseball, basketball, soccer, maybe even American football.

If you're playing in the major leagues, the problem is-- so you know Michael Jordan, incredible basketball star. He decided to quit basketball and play baseball. Some of it has to do with his father. He couldn't rise above like AA baseball. And even then, I'm sure it wasn't because he was Michael Jordan, he wouldn't be playing in AA even. So finally he said, screw it and went back to basketball and got three more championships.

When you're playing in the majors, when a business is competing with world-class competition-- I mean, if IBM comes out, look at Microsoft, which is such a great company, hasn't been able to take on Apple with the iPad. They have the Zune and it's not successful. And Microsoft is much more a consumer company that IBM. So we're just not good at that. I think that these are very sophisticated reasons.

And I think-- and we'll talk about this now-- there is nothing more important for an organization than to be soberly sensitive to what it's good at and what it's not good at. And I don't mean that you don't have a vision and where there is a will, there is a way. But I mean, that's why I was talking to some of you before the class. I like to bring almost an engineering mentality to this.

I remember once having dinner with a client, and after a lot of wine, he was saying, well, why can't you just build the fastest uniprocessor or something, instead of going SMP or parallel. And they said, well, the speed of light is an issue. He said, well, where there is a will, there is a way. And I'm sorry, it's not the way it works, and you almost have to look at some of these softer limits as can you really do it? And I'm hoping that better tools will get developed. When I say it will get developed, hopefully by people like you or companies you start or work on or whatever, so that we can even model, simulate different scenarios. So this is a very fascinating question. Please, you had a point, and then--

AUDIENCE: I was just going to comment on the [INAUDIBLE] about I am not being in the consumer market. How many people in the room--

IRVING WLADAWSKY-BERGER: I know.

AUDIENCE: [INAUDIBLE]

IRVING WLADAWSKY-BERGER: That's right.

AUDIENCE: And IBM pretty much invented the PC market.

IRVING WLADAWSKY-BERGER: Yes.

AUDIENCE: [INAUDIBLE] there anymore.

IRVING WLADAWSKY-BERGER: That's right.

AUDIENCE: Not because of technology.

IRVING WLADAWSKY-BERGER: No. Almost never-- and I hope this is a message that comes across from me over and over again. The limitations are almost never technology. Those are the easiest ones. Remember, IBM's PC company lost money year after year after year. So we developed gorgeous, wonderful machines. We just lost money. Well, after a while, if you keep losing money, that may be a signal that maybe somebody else should run that part of the business, and we'll talk about even alternatives to do that. So the reason for selling the PC business to Lenovo had totally to do that. We were not a good consumer company because we couldn't make it a viable business. That's what it was, not because we couldn't make good syntax, which we did, you see. And it's a gigantic difference. Please.

AUDIENCE: [INAUDIBLE] Michael Jordan. Pretty much as far as when you think about branding, I mean, the reason why he was able to penetrate the market that he didn't have a viable foundation.

AUDIENCE: You mean baseball?

AUDIENCE: Yeah, I mean, so if you look at the consumer market [INAUDIBLE] you have branding [INAUDIBLE] it's not because of not having a viable foundation [INAUDIBLE] how would you explain explain that versus--

IRVING WLADAWSKY-BERGER: The lack of branding? Again, as expected, you all ask extremely profound questions. Part of what you need to decide is can you shape the marketplace to accept you in this new market? And again, let me go back to IBM. IBM's brand for commercial customers is superb. A lot of it based on support and whatever, IBM brands, if you go outside and you see kids, and you say IBM, I mean, I'm sure they've heard of IBM, but the brand as an iPod kind of thing is almost nonexistent.

Now then you can ask a very good question, which is, well, couldn't you spend a ton of money and evolve your brand? The answer is sometimes yes. Most of the time, no. In fact, one of the reasons that one of the lectures we have is from one of the most brilliant people at Ogilvy and Mather, Chris Wall, as a guest lecturer, is because I find these issues of branding and brand positioning and marketing fascinating. And I find them fascinating. Remember, I'm a technologist. I'm an engineer. I don't know what the hell I am. I am not a consultant. I don't have an MBA. So when I say fascinating, I mean it from what are the limits of what you can do in dealing with complex systems, complex markets, complex organizations.

And here is really what you have to decide. So let's say you're going to spend $500 million to reposition your brand. And by the way, that's often what it takes. Remember, that's $500 million you could have used someplace else. So I mean, that's a lot of money. It's one thing to take a risk with $10 million. The financial community may not even be able to count $10 million. But when you go to $500 million, that's material money. And so you have to be much more careful with that. But branding is very difficult to evolve. But we'll talk about it November 1 with Chris Wall. It's something you need to think very hard about.

And when I say you-- and again, I've been on this point since we started-- I don't mean, well, the engineers stay in the lab and branding is marketing. As you know, I don't believe that. I mean, of course, you need MBAs. You need that. But when we talk about especially sophisticated, complex systems, markets, organizations, I think it's very important that the same people who have the overall vision and have the feeling be very involved in the markets and the marketing and the organizational aspects, and then they collaborate with the other professional business people because they bring a totally different sensibility to these problems than the people who don't quite have the same feeling about the technology. And that's why you need a team to these complex things. Yes, please.

AUDIENCE: So I am looking for Dell because Dell has always been thinking about a direct to business. Consumer tastes have changed. Growth has been more in consumer markets in Asia-Pacific, where maybe people want to see and touch and just the change in consumer. I mean, just the demand has forced them to develop organizational capabilities where they're not as good as--

IRVING WLADAWSKY-BERGER: Force them to try to develop.

AUDIENCE: Yes.

IRVING WLADAWSKY-BERGER: No, I'm only saying it that way because, getting back to Michael Jordan, whom I have infinite respect for, I don't know if he I don't know if he had in mind that he would end up playing for the White Sox in Major League. I don't know. Or he just wanted to pay homage to his father, who loved baseball and was happy to do that. But just because you try doesn't mean you'll be able to-- I think Dell was brilliant in the way they did the logistic systems for the distribution of PCs-- brilliant. And again, this is all stuff we will keep talking through the class. They then phoned in the whole company to do that infinitely well. And as long as the direct model worked, they killed everybody else. Only five years ago, if you saw the profit margins and the asset turnover of Dell, they were incredible.

What happened is that the market changed, which is what the disruptive innovation is. And the market change is that most people want to buy not desktops, which are commodities and most people don't give it to this chair, but it's a chair versus your laptop that, all of a sudden, that's [INAUDIBLE]. And that's like our Blackberries and things like that. It's a very intimate, personal aspect. And the laptops, as you all know, you need to touch and feel and, again, to their credit, Apple has done a brilliant job with that with the Apple stores, but brilliant.

And Dell got caught flat-footed. And yes, they can keep selling the commodity store. But of course, more and more the margins are not in the commodity, the laptops. And I think that's what happened. And now the question is, now they started a relationship with Walmart. I have no idea how well it will work out. I honestly have no idea whether Walmart will work out or not. I can tell you-- And this gets back to the IBM thing. If you say, well, whenever IBM talked about channels like Walmart and so on, it's like people, you may as well be talking about Mars.

Actually, we'd be better at Mars than channels like Walmart because the people who think about Mars and stuff like that because as opposed to companies like Sony and Matsushita and so on who have people who are extremely good at thinking about channels like Walmart, Colgate, Palmolive, and channels are huge. And we'll talk about it just in a second. That's a huge part of taking a product. Well, if you have channels to market, you may not build anything because you're not going to get it from Mars.

I mean, you can do that for fun in the marketplace as a research lab. So I think [INAUDIBLE] the question is, can they change? But we'll see. By the way, they might be able to reinvent themselves. Remember, Michael Dell is brilliant. Steve Jobs came back to Apple and, all of a sudden, Apple took off. So Dell, because of Michael Dell, might be able to reinvent itself. But the jury's not back. I just don't know whether they'll be able to react.

So let's start with organizational capabilities. And in the paper by Christensen and Michael Raynor, I think one phrase that I think captures a lot of-- in fact, a lot of what we've been talking about is this point that managers assume that if they have really good people in their organization, then the organization in which they work can do anything. They'll be well-matched to any problems. And in an understatement kind of phrase, they say, often, that is not the case. So organizations have limits in what they are able to do. Now why is that? Why do organizations have limits?

Well, I like very much the way Christensen and Raynor framed this question of organizational capabilities. How do you think about it? And they framed it by saying, think of an organization as having three major parts of-- three major types of components-- resources, people, and stuff like that, processes, and values. And by values, it didn't mean, do you steal? Do you pay homage to diversity? He didn't mean that. I mean, those are critical, but those are really critical, especially in a globally integrated world. But that's not what we're talking about. He meant values like what is this company all about at its essence? So you think of the organization like that.

So let's discuss before we go to the next [INAUDIBLE]. So which of those parts are easier to change, are easier to apply to some new project?

AUDIENCE: Resources.

IRVING WLADAWSKY-BERGER: Resources, yeah. And why is that? Why would you say that's the case?

AUDIENCE: Changing behavior of people is more difficult than processes, and values involve [INAUDIBLE]. Changing just the physical object is not very good. Even changing individual employees, replacing them with employees--

IRVING WLADAWSKY-BERGER: That's

AUDIENCE: --easy enough.

IRVING WLADAWSKY-BERGER: No, that's right. So in some level, if the people you have now don't quite have the skills, maybe you have them elsewhere in the organization, and you bring them over, or you go hire them. So you can do that, and as long as the people you bring are good people. Now, they are your new employees. And if somebody say, well, but you need a new building, you need London or Bangalore or whatever, so you get a new building in London or Bangalore. So resources are the easiest to change.

Now why are processes harder? Why would you expect processes? And processes-- think about it. This is the way we do things. Every company needs to have-- this is the way we do things because, otherwise, every time you do something, it's like, oh my god, what do I do now? And at that point, it's doing efficient. So why are processes harder to change? Please.

AUDIENCE: Just like I said as being editing personal habits, it takes a long time for processes to become established and incorporated into the company. And just like personal habits, it's hard to break off from them.

IRVING WLADAWSKY-BERGER: That's right.

AUDIENCE: --to realize it and then [INAUDIBLE]

IRVING WLADAWSKY-BERGER: Yeah, and of course, in a company, they are more than personal. They are organizational habits. So it's the way things get done around here.

AUDIENCE: Processes are usually formed after many years of training and testing. And so they realize that this is the way it works. Or they have decided to just have a protocol this way. If somebody starts protesting against that or goes against that, and that's just going against all the learning they've had for the past many years.

IRVING WLADAWSKY-BERGER: Yeah, that's a very good point that processes are almost a major part of organizational learning, whereas knowing how to build an iPod, if you know how to build computers, that's a little bit different. Now having a set of processes for bringing things to market, doing a lot of marketing style, little harder. By the way, it's a fascinating question. Well, let's talk about values, and then we'll talk about some examples.

But notice that in all these discussions, when we talk about the wars, it feels often very academic. The second we get into examples and what's going on out there, it all comes to life because you're almost watching a sports game. You're watching companies screw up, companies do well, companies try. The whole thing comes to life when you see the real examples. And of course, people like Christensen and Raynor and others are very good at abstracting. So what the hell is going on?

So how about values? What is the key importance of values in an organization? Any comments? Please.

AUDIENCE: Well, every day, every employee [INAUDIBLE]

IRVING WLADAWSKY-BERGER: Yeah, perfect.

AUDIENCE: It's basically all kinds of [INAUDIBLE]

IRVING WLADAWSKY-BERGER: Perfect. Especially if you have-- I mean, if you're running a restaurant and everybody's here, of course, you need values, but everybody's in the same place. So it's a little bit easier to share it. But if you are especially in an organization with people distributed around the country, let alone distributed around the world, people need to have a format. How do you behave?

How does an employee of this company behave when a customer wants something-- yes or no? I have no idea. Let me get back to headquarters. Customer is pissed because it's taking you forever. Somebody else comes back and gives them an answer in 10 minutes. They win the business.

So values are the things you need to know what is OK and what is not OK. I often think of values in a company as you have to have a pretty good idea what will you get fired for. And what, if somebody doesn't like it, you ask forgiveness and go on, and every company will have a different list. And those values are never posted. You cannot go someplace and read. I mean, they'll post the values-- no sexual harassment. I don't know if that's a value.

But these subtle points, you know-- I was just talking-- I was at a dinner with some people from IBM on Tuesday. And this executive, Maria Urzua, had gone to Peru because IBM Peru was celebrating the 75th anniversary of my being in Peru. And Maria is Cuban. She speaks Spanish well. So she went there. And as she was driving to the event, they had a 7.2 earthquake in Lima.

And all of a sudden, here is Maria, who went to do this celebration, not knowing what the hell do we do. Do we cancel this stuff? What do I do? And she gets on this spot, it's a little bit about it. We have to cancel this. Let me immediately put up money to put up a website so that Peru can get access. Several hundred people died, so it was a serious earthquake. Several hundred-- put up a website, help in any way you can, organize for the client.

Now, if some financial person someplace said, Maria, you didn't get approval for spending money to put up this website, they would just smack that person and get rid of that because you don't do that. Even if it's wrong-- let's even assume she shouldn't have done that-- If somebody made a case about it, it's like they're questioning values. They're not questioning something else. They're questioning values. So that's why things like values are so important because it's how you want your employees to behave when nobody else is around. So it's a very big part of every company.

And I think this is a good way to think about it. And then when you start looking at resources, processes, and values, as we have been discussing, it's clear that they have very different frames. So the time frames for resources are extremely important in early stages. And if you're starting a new business, an entrepreneur, or you don't have a lot of time to worry about, OK, what are the values of this company? Let's hire McKinsey to do that. You think you'll disappear very quickly?

So you have to get something out the door quickly. And you probably don't even have processes when you start because you have processes you need to have process for something. If you're a new company, you don't have enough employees. You're just almost learning. You're playing it by ear. However, and this is my feeling, and especially in today's world, the most critical thing you need is talent. You really need to make sure you have the right talent, the people. Please.

AUDIENCE: Question on the value part.

IRVING WLADAWSKY-BERGER: Yes, please.

AUDIENCE: And maybe I would like to differentiate between perhaps two sets of values.

IRVING WLADAWSKY-BERGER: Please.

AUDIENCE: Most companies, including IBM and HP, have published their set of values.

IRVING WLADAWSKY-BERGER: Right. And I'm not talking about those. And those have very little relevance to because they're so broad. That's right, they are very important, but those are the really long term. That's not what I'm talking.

AUDIENCE: Right. So we're not talking about that. The values that you're talking about are probably more on the lines of company culture.

IRVING WLADAWSKY-BERGER: Yes, that's a very good point.

AUDIENCE: But that culture can actually vary from one business unit to another, from one geographic location to another. And I don't know about IBM, but some of the companies that I've worked at, it was very different across business units.

IRVING WLADAWSKY-BERGER: Well, you have to be careful. I realize that, but that's dangerous. By the way, it's dangerous in a way-- I'm now talking from having seen the train wrecks happen.

So I've seen this at least twice. And in fact, soon you can talk about one of them. I don't know if you saw it. IBM got into horrible trouble in Korea with a corruption case. Were you there at the time, [INAUDIBLE]?

AUDIENCE: [INAUDIBLE] involved. But I think it was [INAUDIBLE].

IRVING WLADAWSKY-BERGER: And IBM had a previous one in Argentina. Now, in some companies, somebody can say, well, we're in Argentina, for heaven's sake. This is the way you do business in Argentina. We don't even call it corruption.

And they can think that way. So you bastards in the US and the UK, that you have the Magna Carta forever in the UK. But we're in Argentina or Bolivia. It's a little different. IBM lost huge amounts in Korea because the Korean government had to react when this exploded.

And it could even be that something that they would have tolerated from a local Korean company they could never tolerate from a multinational, from a global company. And of course, the press had a field day with that. IBM had to fire the whole senior team. It couldn't do business. It lost a tremendous amount, similarly in Argentina, before.

That's an example. And now we're talking about-- I think this is an example of these values here. Now, there are other values that could be very different. So you have to be very careful as to which are the ones that you don't have a choice but to do and which are the ones that you allow flexibility among-- You have to be really careful.

Take discrimination against women-- could be a lot of countries where women cannot come to this meeting. Is that tolerable or not? Well, now you have to do what we call in physics a gedanken experiment. I don't know if you know, gedanken experiment means a thought experiment, which means, OK, let's think this situation.

So how would you feel if you read in *The New York Times* and *Wall Street Journal,* IBM Japan is very comfortable not having women in the executive ranks? I don't mean you read that in Japan. You read that in *The New York Times* or the *Wall Street Journal.* The answer is, that would be disastrous because of the values around the world. You cannot do that. But there are other things you can do.

So these are very important things. And these kinds of, quote unquote, "soft decisions"-- and they are soft in the sense of, it's not like you add three numbers, and you get the answer-- are usually the ones that, if you screw them up, you'll find yourself in page 1 of newspapers under an incredible crisis. So that's why you have to be so careful this way.

And then there are the more cosmic values, which we all have, and those are very important to have. But usually, IBM values are servicing clients, innovation, and being trust in everything we do. We think those [INAUDIBLE]. If you read the US Constitution, there are all these values.

But remember, we had slaves for many years under the US Constitution, and women couldn't vote until the 1920s, I think. Women got the vote under the same Constitution. So at those high levels, you can hide a huge number of things. That's why they have to be really perfect.

So resources are most important in the short term. But of course, what then begins to happen is, as the company starts growing, then all of a sudden it's not enough to be out of control-- customer service, manufacturing, HR. And that's where processes begin to come in because, as you're growing, you start needing to start putting in processes to stay in control. You just don't have a choice.

And then, especially as you can keep growing and become distributed and headquarters move farther and farther away, then you need to set up company culture and so on to get people who want to make decisions. So far, so good. Wonderful stuff.

But the beauty of discussions about complex organizations is, the same thing that is wonderful can kill you. And what I find so interesting here is the point that Christensen and Raynor are saying, that often what happens is that, because a company has become so good at having solid processes and extremely good company culture, if they need to go move to do something else, those same strains will be a huge impediment to go do the next thing.

And a small company that does not have this value, or a new company, can all of a sudden start adapting its processes and its company culture to the new environment. And let me give you an example. So somebody can say, well, we have these values for these complex systems, jet engines or mainframe computers or whatever, so that we test the hell out of them before they go to market.

But now, what if you are in an area where you're selling products that are not quite as mission critical, let's say more office systems-- they have to work, but there's a difference between an office system and a jet engine. And if you have this entrenched company value and treat the office system like the jet engine, well, what happens then?

AUDIENCE: [INAUDIBLE] late to market [INAUDIBLE].

IRVING WLADAWSKY-BERGER: You're way late to market. Your company-- you'll get killed. And another company that doesn't know jet engines from a hole in the wall will just do their office systems, do them very quickly, get to market to a more-- what people call good-enough technology and just run with the marketplace.

So it's this major part of all organizational dilemmas that you need to be very good here. And what made you very good is you started with something disruptive. Then, as it got more and more accepted, you started then incrementally making it better. That's how you got processes. Processes are usually incremental kinds of innovations and, of course, company values long-term.

But eventually, then, some other disruptive things come along, and now you will have a lot of trouble reacting to these new cases. And that is a real dilemma. It's a real issue for organizations. Question? Please.

AUDIENCE: On the previous slide, I was curious about [INAUDIBLE] your comment there about, their value can embrace small markets, and cost structures can accommodate low margins, that this would not be true for a typical venture-based technology startup. What do you think?

IRVING WLADAWSKY-BERGER: Well, I don't know. A number of you, I'm sure, know a lot about ventures. But what do you all-- I mean, it's a very good question.

I mean, I would say it depends how much money-- what stage of the venture you are in and how much money that you're asking your investors to give you. That's what I would expect. But any comments, any of you who've especially been in the venture world?

AUDIENCE: What's the question?

IRVING WLADAWSKY-BERGER: The question was whether-- let me rephrase the question. Tell me if I'm doing it well. So if you are a more established company, and you're trying to decide whether to go after a market, usually the bar for what markets you go after is high. Otherwise, it's not worth your going after. And the kinds of profit margins you expect to get, revenues and margins, are also high. Otherwise, it's not worth it.

So you will look at lots of new things and decide they are under the bar for you to pursue, as opposed to a new company for whom this is the way they get going is that these are decent margins for them. And remember, they are not a $10 billion company. They are a $0 company. So $10 million in revenue is not bad. And they are willing to start with lower margins. And your question was, will the VC world accept that new businesses will start in markets that are relatively small?

AUDIENCE: Actually, my comment was that, for technology companies that are backed by VC, they would not back a company that is going after a small market [INAUDIBLE] market.

IRVING WLADAWSKY-BERGER: And I wanted you all to come-- yes, please.

AUDIENCE: It sounds like the bar is less about profit margin than it is just about risk and return on investment, expected return on investment. I mean, the cost of capital for large corporations is much less than it is for a startup. I mean, investors for startups would expect 300% returns on their investment, whereas stockholders expect much smaller, maybe like 10% return on investment. So it seems to be much more about--

IRVING WLADAWSKY-BERGER: That's a very good point. So you're saying--

AUDIENCE: --is the size of the market worthwhile to dedicate people to go after it? And then if it is worthwhile, then what's the probability of having a positive return on investment?

IRVING WLADAWSKY-BERGER: Yeah, but I thought what you were going after is that a VC-- let's assume there is a potential billion dollars in revenue, but the risk factor is high. A VC could invest in that because, if you hit the billion, the return will be very high, whereas an established business, the risk may be too high. Was that-- I don't know if--

AUDIENCE: Right. I got it. So you both have a high expectation of return. It's just the amount of risk that you're willing to take on to get that return, from what I understand.

IRVING WLADAWSKY-BERGER: Yeah. No, that's a very good point, and a lot of it has to do with risk. Yes, please.

AUDIENCE: I was just going to say, I think a good example might be the software as a service and the CRM market. I think-- I don't know exactly--

IRVING WLADAWSKY-BERGER: You mean like Salesforce?

AUDIENCE: Yeah. I'm assuming that they were venture-backed. I don't know exactly.

IRVING WLADAWSKY-BERGER: Salesforce, I'm assuming, it's--

AUDIENCE: But they get much lower margins by going for small-office customers, and Oracle and SAP were ready to ignore that bucket.

IRVING WLADAWSKY-BERGER: Yeah. No, that's-- well, in fact, this story happens constantly. I should have said it differently, and I think you corrected me, that-- well, you both did-- that the VCs want a market that is potentially very large, but they are willing to accept a higher risk of that happening than an established company. Would you accept that?

AUDIENCE: I think you're right.

IRVING WLADAWSKY-BERGER: Yeah, so I stand corrected. That's a much better way of putting it. You had a comment?

AUDIENCE: I was just going to say that, in my new enterprises class, there was--

IRVING WLADAWSKY-BERGER: In your what class?

AUDIENCE: In new enterprises class. I saw these two entrepreneurs, recent entrepreneurs, they came in, and they talked about what they went through when they were looking for VC funding. And they said that having VC on board changes their future by-- it upsides down the whole thing.

So what happens is, before VC, they have a high likelihood of becoming a medium-level success. And a VC is not accepting of that. He usually goes for a much higher return. And so he's willing to take a lot more risk, and he's willing to have no success at all.

IRVING WLADAWSKY-BERGER: Yeah, I understand.

AUDIENCE: So it's the same point.

IRVING WLADAWSKY-BERGER: So it's the same point. It's risk. Yeah. You all? Excellent point. Yes?

AUDIENCE: Sorry [INAUDIBLE] reading [INAUDIBLE], it's more about the focus on revenue and continuing to drive all the resources in the business towards revenue or the revenue generation [INAUDIBLE] taking the risk of new innova--

IRVING WLADAWSKY-BERGER: Yeah, yeah, I agree totally, also. Yeah.

AUDIENCE: And in *The Dilemma,* his first book, he says almost categorically, you have to step outside that--

IRVING WLADAWSKY-BERGER: That's right. Well, and that's exactly what--

AUDIENCE: He softened it a lot on the--

IRVING WLADAWSKY-BERGER: On the second book.

AUDIENCE: [INAUDIBLE]

IRVING WLADAWSKY-BERGER: Yeah.

AUDIENCE: [INAUDIBLE] we heard last week that he had to form almost a guerrilla organization [INAUDIBLE] IBM to get into the Internet Division forum. And if you look at other examples, like [INAUDIBLE] was formed to do the PC business [INAUDIBLE] outside of it.

IRVING WLADAWSKY-BERGER: Yeah.

AUDIENCE: [INAUDIBLE]

IRVING WLADAWSKY-BERGER: No, that's perfect. So let's talk about that. So how does an organization handle this? And let me start with, get a separate team that's dedicated to the new initiative because, if you have a current team-- people doing mainframes or people doing whatever, and you say, by the way, I also need you to do this other stuff, and this is an incremental business, and this is a high-risk business, at that point, it's too difficult.

And usually, for example, what is very difficult is something I have observed like crazy in IBM and other businesses-- people running line operations. I cannot tell you how brutal the quarter is. I cannot begin to tell you. I don't know if you've all worked up there.

I don't know how many of you have worked in public companies and seen how critical it is to meet analyst expectations for the quarter. And if somebody said, Irving, screw them-- you can say that, and then when the stock tanks because you didn't meet expectations, the board has to fire you. So you'll say that on your way out.

[LAUGHTER]

I'm being very serious. I mean, a lot of people question that, if this is [INAUDIBLE] way to build a railroad. But I don't have [INAUDIBLE]. We're not in a course here to modify the world's financial system. That would be a different course.

So you need to focus very hard on your line operations. And you also need to worry about the future and go after new opportunities, especially the ones that are based on disruptive innovation. And what we learned is that the only way to do that-- and that's what we talked about-- is to form a separate organization, and that's what they do.

And in fact, with the Internet Division, at the time that I was asked to organize the Internet Division in December of '95, I was running IBM's Unix business, what's called the RS/6000 business. In the Unix business, the RS/6000 is a multi-billion-dollar business. I don't know [INAUDIBLE] manufacturing and all that stuff.

And then [INAUDIBLE] said, we need you to go do this. I can't do it. I had been doing this for so long. And he said, well, we put somebody else to do that. I need you to do this.

And what has been our experience is, not only do you have a separate group, but if you are serious about it, you also need to almost-- what's the right word? Almost over-staffing, but by over-staffing, I mean, put a very senior executive that people say, well, but Irving had-- I don't know-- 4,000 people working for him and billions in revenue. Here he has John Patrick and a few other people. And since we don't even know what an internet business is, he has zero revenue. So is that a demotion, or are you punishing him? Is that a penalty box?

And the answer is that the only way to make sure that you put dedicated focus on something new is put somebody who is senior because, by being senior, what it usually means is you have access-- you know the people. Being senior-- remember, in any organization, what counts is not the hierarchy. What counts is, do you know people, and do they respect you? That's all that counts. And being senior usually means you know people, and you have built up your equivalent of your eBay--

AUDIENCE: Reputation?

IRVING WLADAWSKY-BERGER: Reputation, yeah. You have built up your eBay reputation [INAUDIBLE]. And that also signals to the organization and to the outside, that, boy, Louis wasn't bullshitting here. He's serious about this. And we've done this repeatedly with-- we did it on Linux and other things. So that's one approach is, start building up these new internal capabilities, but put it in a separate organization.

Now, something very interesting-- and I'll get to the next two-- is that-- I don't know if this is always true, but it's been true in most of the organizations like this I've been involved. If it's an initiative like the internet or open-source software, that, at some level, it's not a separate business-- it's only a separate business because of these artificial things we're talking about. At the beginning, it's this little tree, and you don't even know where the hell it's going.

But eventually, the internet is part of everything. And eventually, Linux and open source is part of everything. When you start this, everybody needs to know that success means that you go out of business after a while because success means that the rest of the organization has so absorbed this disruptive technology that now you are more of a pain to them-- they view you more as an overlay staff than a help.

And once that happens, you stay a little longer, but you don't want to overstay your welcome. And it's a very important thing. You do this, but then everybody knows, over time, it has to be integrated back in. So it's only a temporary thing.

Now, another approach that people do is to have spin-out organizations. Do you have any examples of good spin-outs that you've seen? Please.

AUDIENCE: Freescale from Motorola is--

IRVING WLADAWSKY-BERGER: That's right. That's an excellent point, Freescale from Motorola.

AUDIENCE: They churned out a chip design part out. Motorola just focuses on the consumer market and large scale--

IRVING WLADAWSKY-BERGER: Yeah, that's a very good point. And yes, please.

AUDIENCE: At one point, Lucent was a big spin-off of AT&T.

IRVING WLADAWSKY-BERGER: From AT&T. This is after the AT&T broke apart, you mean? Would you consider that, or--

AUDIENCE: Yeah, after.

IRVING WLADAWSKY-BERGER: Yeah. Any other?

AUDIENCE: Avaya from Lucent.

IRVING WLADAWSKY-BERGER: Avaya, yeah. Now, where is-- I mean, Lucent, as we know, the main part of Lucent is part of Alcatel. Correct? It's Avaya still a viable--

AUDIENCE: It's actually owned by private equity now. I think [INAUDIBLE].

IRVING WLADAWSKY-BERGER: They are, yeah. HP used to have Scientific Instruments. Am I not correct?

AUDIENCE: I think Agilent [INAUDIBLE].

IRVING WLADAWSKY-BERGER: Agilent-- and that got spun out.

AUDIENCE: [INAUDIBLE]

IRVING WLADAWSKY-BERGER: Xerox Labs.

AUDIENCE: Is it HP [INAUDIBLE]?

IRVING WLADAWSKY-BERGER: I don't think so, but I don't know.

AUDIENCE: [INAUDIBLE]. Arjuna is an example.

IRVING WLADAWSKY-BERGER: Yeah. No, it could be. You may be totally-- I know for sure Xerox PARC is in that example. And I think the Sarnoff Labs and even SRY-- there's an SRY in California.

AUDIENCE: So in countries like India and bigger family-owned businesses, they spin off a lot of times, like Tata's have a consulting service that eventually became a huge company and [INAUDIBLE] revenue source.

IRVING WLADAWSKY-BERGER: Yes. [INAUDIBLE].

AUDIENCE: [INAUDIBLE] so they keep spinning off.

IRVING WLADAWSKY-BERGER: They keep spinning. So you--

AUDIENCE: I just wanted to mention that [INAUDIBLE] is also a good example that failed [INAUDIBLE] spin-off. So they invented all these great technologies, like GUIs and the internet and all these great technologies. And [INAUDIBLE] failed spin-off.

And sometimes, what happens is, people engage [INAUDIBLE], If they don't nurture these innovative people, and they don't really separate out these people and then really push them to do-- have business out of it, then you would lose a lot of chances for making new disruptive technologies.

IRVING WLADAWSKY-BERGER: Yeah. Yeah. No, it's an excellent point. I wonder if, as I'm now thinking aloud with all of you, if a difference between setting up this new internal capability-- I think IBM would call it emerging business opportunity-- the difference between that and a spin-out may have to do whether your intent is to reintegrate it back in later.

And if you intend to reintegrate it back in, be very careful with the spin-out because then you're neither fish nor fowl because when you spin out, their financials and everything are very different. When you try to reintegrate it back in, they'll scream, whereas, is it fair to say, all the examples you gave are companies that you really were spinning out, that you were happy to sell them to somebody else? Does that make sense, that you need to make that decision? Is it temporary, or is it-- yes, please.

AUDIENCE: Yeah I think you make a good point. I was thinking about a lot of the semiconductor arms of conglomerates were spun off because companies didn't want the ups and downs of the semiconductor industry showing up on their balance sheet and wanted a more predictable--

IRVING WLADAWSKY-BERGER: But for example, Motorola never expects to reintegrate Freescale.

AUDIENCE: In fact, they just wanted it to be separate and have two different balance sheets.

IRVING WLADAWSKY-BERGER: What private equity-- was it Carlyle or--

AUDIENCE: Freescale?

IRVING WLADAWSKY-BERGER: Freescale, yeah. I agree. I do agree that it was a private equity. I don't know which one.

AUDIENCE: But the other interesting thing that you mentioned on how [INAUDIBLE] emerging business opportunities is, for example, how GM Saturn, their--

IRVING WLADAWSKY-BERGER: Yes?

AUDIENCE: You want to go after the [INAUDIBLE].

IRVING WLADAWSKY-BERGER: Yeah, Saturn is another example of an APO kind of thing.

AUDIENCE: But [INAUDIBLE] the company [INAUDIBLE].

IRVING WLADAWSKY-BERGER: Now, let me ask you, how about Lexus? Think of--

AUDIENCE: [INAUDIBLE]

IRVING WLADAWSKY-BERGER: I'm sorry?

AUDIENCE: It's silent.

IRVING WLADAWSKY-BERGER: Design. Now, am I not-- I think, in Canada, Lexus and Toyota have the same dealerships. I don't think-- I've seen, in the US, Lexus has totally different dealership. But I don't believe that's the case in all countries.

AUDIENCE: That's not because of coping with disruptive innovation. That's just branding.

IRVING WLADAWSKY-BERGER: No, no I understand. But what I'm saying is, to some extent, the model Toyota used, which led to spill smoke, like category 1, then category 2-- in other words, Toyota has never let go of Lexus. Am I not correct?

So I agree totally. It's now a branding in different countries. But my expectation is-- and I don't know anything about this-- Toyota said, let's create a really high-end brand. But they couldn't do that. Camry-- they didn't want to screw up Camry.

And if, all of a sudden, they said, well, let's make Camry the high-end brand, then, wait a second. Camry is the most successful high-volume brand in the world. And so they set it up as a totally separate thing in the US. And so it's a very good example of set something up differently. It's a very different way. So both models work.

And then acquisitions-- acquisitions is very interesting. I have to tell you, the whole view of acquisitions-- let me give you my personal view again. When I say a personal view, what I mean is the view based on my experiences. That's what I mean by personal view, as opposed to what I read in a book.

For a long time in IBM, we viewed having to make an acquisition as failure because the view was, [INAUDIBLE] if this is good, we should have done it. And the fact that we didn't do it, and we had to go acquire it, is a statement of failure. I'm being totally serious. That was the view. And I bet you it must be a view in a lot of companies. I mean, can you imagine companies having that view?

Other companies-- Cisco, I think, has done a magnificent job becoming an acquisition machine. It's almost like their R&D is acquisition based. No, no, I'm being very serious. They've decided-- and this is a superb model-- that the free market is a better research lab than anything they could set up in-house. So let the free market try things out and so on.

And then, when the free market signals that something is good-- and the way the free market signals is, here is a company with a good product and a high stock value, and they need that product. Now we'll buy them. You say, well, but if they have started it from the beginning, they would have saved the money of that acquisition.

Yeah, but you're assuming that they would have been able to get that to be successful. And that's a huge assumption. And in fact, based on all of our discussions, that may be a delusional assumption for most new technologies. Please.

AUDIENCE: One company that has made an acquisition [INAUDIBLE] Oracle.

IRVING WLADAWSKY-BERGER: Oracle, yes.

AUDIENCE: [INAUDIBLE]

IRVING WLADAWSKY-BERGER: I agree. Well, even before PeopleSoft.

AUDIENCE: [INAUDIBLE] all big companies are big because they acquire. Google is [INAUDIBLE].

IRVING WLADAWSKY-BERGER: Yeah. Well, GE is very good. I think they all-- this is my experience, and soon, you-- maybe you want to comment on this. I think that-- [INAUDIBLE] is a real [INAUDIBLE] person, so that's why he will comment on it. He's getting a PhD in [INAUDIBLE].

When I think over the last 10 years, the whole culture of business and acquisitions has changed drastically. And I think it's that we used-- in the Industrial Age, we had the notion of the vertically integrated company, which, as we all know, is the Industrial Age. But as we've become more whatever the hell we're becoming-- knowledge age, information age, whatever-- businesses are disaggregating. And part of the disaggregation is the ability to both sell assets and acquire assets. And [INAUDIBLE]. Does that make sense to you?

AUDIENCE: [INAUDIBLE]. So I think one thing-- adding to that, one thing that we haven't mentioned, but I got this idea when you were mentioning about [INAUDIBLE], usually, I think, we're talking about the innovation and technological changes. But I think it's also related to user base because, most of the time, these users are the ones who are [INAUDIBLE] to use the advanced technologies.

IRVING WLADAWSKY-BERGER: In fact, this gets back to process and value because, for the kinds of customer base you're after, your current processes and values-- I mean, if you buy a Corolla, and you call the dealer and say, come pick up the car for service, I mean, if they're a nice dealer, I don't know what they'll say, whereas if you buy a Lexus, the dealer will come and pick up your car for service.

And by the way, that's a process. Remember, if you are going to have dealerships that are willing to pick up cars for service, you need a process with, how the hell are you going to do that? And those processes cost money, so you have to know what you're doing. [INAUDIBLE]?

AUDIENCE: [INAUDIBLE] I think innovation is not just about developing things.

IRVING WLADAWSKY-BERGER: Yes.

AUDIENCE: Also, it's about the interaction between the manufacturer and the [INAUDIBLE] by solving the customer's problem. And I think Oracle is a great example of-- when they acquired Siebel and-- they acquired Siebel [INAUDIBLE].

IRVING WLADAWSKY-BERGER: Siebel and PeopleSoft.

AUDIENCE: They acquired the experience of these companies working on--

IRVING WLADAWSKY-BERGER: Exactly.

AUDIENCE: --the specific problems, like customer relations [INAUDIBLE].

IRVING WLADAWSKY-BERGER: Exactly.

AUDIENCE: They acquired this experience of interacting with users, and that brings back into the company.

IRVING WLADAWSKY-BERGER: Yeah. Perfect point. Yes, please.

AUDIENCE: I've been involved [INAUDIBLE] Oracle for [INAUDIBLE].

IRVING WLADAWSKY-BERGER: What business are you in?

AUDIENCE: Software and deployment.

IRVING WLADAWSKY-BERGER: Yes.

AUDIENCE: But I'm actually going out there next week to talk to their management about this very issue. [INAUDIBLE] at Oracle is, they've [INAUDIBLE] this acquisition mostly to get rid of competition, not to acquire [INAUDIBLE].

IRVING WLADAWSKY-BERGER: Especially against SAP.

[INTERPOSING VOICES]

AUDIENCE: They've strictly acquired Edwards. They've acquired PeopleSoft. They've acquired all their major competitors [INAUDIBLE]. So it's a completely different strategy than, I need that technology out there.

IRVING WLADAWSKY-BERGER: Yes.

AUDIENCE: Acquiring is actually costing them more money than--

IRVING WLADAWSKY-BERGER: But what's happened with customer side of the clients they acquire? Are they providing for the-- JD Edwards and so on-- is the customers side good?

AUDIENCE: They're initially continuing to provide support for them. Of course, they can't support that many products for very long before they kind of have to funnel them all down into what they call fusion.

IRVING WLADAWSKY-BERGER: That's right. Yeah, I know it. I know what fusion is.

AUDIENCE: [INAUDIBLE]. Yeah, they're forcing all of their clients to spend money [INAUDIBLE].

IRVING WLADAWSKY-BERGER: Yes, to evolve to fusion.

AUDIENCE: And there's a lot of community. There's a lot of-- Oracle is making a big effort of trying to calm the community [INAUDIBLE].

IRVING WLADAWSKY-BERGER: I understand.

AUDIENCE: [INAUDIBLE]

IRVING WLADAWSKY-BERGER: No, I understand. I understand. By the way, what's interesting with Cisco-- and I think we've learned this in IBM, also. Cisco acquires small companies, and they integrate them immediately. So if you say, well, how about the culture of this small company? Cisco would say, "culture-shmulture." The culture is Cisco. Now, you have to make sure, then, you acquire a company that is small so it either has no culture, or the culture is--

AUDIENCE: Similar.

IRVING WLADAWSKY-BERGER: --is similar, yeah, but you're willing to get rid of it. Oracle-- I mean, you cannot do that with Siebel. Siebel got too big. So do you think Oracle intends to integrate them under the Oracle brand?

AUDIENCE: They'll all be Oracle [INAUDIBLE].

IRVING WLADAWSKY-BERGER: So they will do that over time. I think you almost always have to do that. In IBM-- this is part of the limitations of the company. I cannot tell you how much we screwed up office systems for decades. Finally, we acquired Lotus. Lotus had a big brand, and so we kept Lotus very strong as a big brand.

But eventually, after about four or five years, we still have Lotus, but now it's very much a unit in software. But what we've learned is, most of the acquisitions we make now are small, and the brand disappears. They get integrated because big acquisitions where you have to support the brand and culture, that can cause you all kinds of problems. So it's something to keep in mind. Somebody else-- did you have a question?

AUDIENCE: Another example of Oracle acquisition at this scale is a company that was started by [INAUDIBLE]. It's based out of Boston [INAUDIBLE], and basically, it's the same [INAUDIBLE]. The reasons to buy it-- for one, they have a new product. Second, they also [INAUDIBLE] their product to the existing institution.

IRVING WLADAWSKY-BERGER: Yeah, yeah.

AUDIENCE: Basically, they can sell more Oracle databases then--

IRVING WLADAWSKY-BERGER: Yeah.

AUDIENCE: So they wanted to increase [INAUDIBLE].

IRVING WLADAWSKY-BERGER: Very good.

AUDIENCE: [INAUDIBLE]

IRVING WLADAWSKY-BERGER: Please.

AUDIENCE: One of the interesting things-- we've talked about the size of the acquisition and the culture and the brand is, Cisco has acquired Scientific Atlanta.

IRVING WLADAWSKY-BERGER: That's right.

AUDIENCE: And that's one of their biggest acquisitions. And they're treating it very differently than they're treating all the smaller acquisitions--

IRVING WLADAWSKY-BERGER: That's a very good point.

AUDIENCE: [INAUDIBLE] whole supply chain different. It's vertically integrated. The brand is--

IRVING WLADAWSKY-BERGER: Because it's a very-- how about the-- what's the company of inexpensive routers for the home? What am I thinking?

AUDIENCE: Linksys.

IRVING WLADAWSKY-BERGER: Linksys. Didn't Cisco acquire Linksys, also?

AUDIENCE: Yeah, [INAUDIBLE].

IRVING WLADAWSKY-BERGER: Its Linksys integrated, or is it--

AUDIENCE: Linksys, I think, has been integrated, in terms of the supply chain and everything else.

IRVING WLADAWSKY-BERGER: Do they still have the Linksys brand?

AUDIENCE: They just announced that they're getting rid of it.

IRVING WLADAWSKY-BERGER: They're getting rid of it. So Linksys follows the pattern. But Scientific Atlanta is too early. That's what you're saying is-- remember, this follows this talk. Scientific Atlanta is in a totally different field from present Oracle's problem, whereas it's Linksys-- remember, Oracle and Cisco had-- I mean, Cisco-- Cisco had home wireless technology. So Linksys was easy to-- they've never been in the setup business.

AUDIENCE: I thought that Linksys was also being kept at an arm's length.

IRVING WLADAWSKY-BERGER: No, but what I'm hearing-- and this is totally expected-- is that's temporary, that it's becoming integrated, which is what I would expect that [INAUDIBLE] totally integrated. So it's the kinds of things you need to do. Now, why don't we take a break? Before the break, John Patrick told me he forgot something, so bear with me.

I'm going to ask some questions that may sound bizarre. And I didn't lose my head, but I will explain it after I get your-- now, today is September 27. John was here September 20. So is there anybody here that had a birthday within a week of September 20th? You did? When was your birthday?

AUDIENCE: 22nd

IRVING WLADAWSKY-BERGER: 22nd. OK, John said that he brought a copy of his book to give away, and he wanted to give it away to the person with the birthday-- he didn't know how else to do it-- the person with the birthday closest to when he was here last week. And he asked me to then do this for him. So may I give-- stop by, and I'll give you a copy of John's book.

[APPLAUSE]

Why don't we take a 10-minute break, and then we'll come back?

AUDIENCE: Do you have another one? Mine's the 14th.

[LAUGHTER]

IRVING WLADAWSKY-BERGER: I'm sorry. I was going to ask next. OK, thank you.

So let's move to the two different subjects, which is, when you have a disruptive innovation, what market should you go after? And later on, we'll talk about what customers you should go after. And they are actually very related. And this is all very nicely written in-- now back to *Innovator's Solutions,* chapters 4 and I believe [INAUDIBLE] 5.

Now, something that is very important when you're trying to bring a new product or service to market is to pick your initial target market. Really, really important because, if you make the assumption-- remember, there is an overriding assumption I'm making that time to market is extremely important with something new and that-- how can I say?-- this competitive cost is very important with something new.

If you say, well, I'm going to go after the whole bloody market, well, you won't get there. It will cost too much, and you will be equally mediocre in everything. And then what happens is the competitor who has a more focused approach will pick you up. And there may be seven competitors. So this notion of finding where to position your product in one market is extremely critical.

From my personal experience-- for example, one of the things I've been very involved in IBM was supercomputing, and in particular, starting what became our parallel supercomputing business in the early '90s, before the internet. And we made a decision. Parallel architectures were pretty new in those days, in the early '90s. But one decision is, OK, so our launch customers will be Cornell Supercomputing Center and Argonne National Lab, which is a DOE lab outside Chicago.

And the reason is because, if we told people, OK, that's what we need to do is do something that's good enough for them-- remember, these are national labs, Cornell Supercomputing Center. These people are going to be very forgiving of a lot of stuff. So you can afford to do something that's good enough for them that, when you then want to go to a more commercial customer, like an engineering company to do simulation or a petroleum company to do seismic analysis, they would expect something one degree better.

So in some sense, this initial product was not very good. But in fact, the way we looked at it-- and I think people were doing this more and more-- is, look at this initial one almost as an alpha. And by picking the right customers that not only were happy with your alpha, but in the case of parallel supercomputing, were honored that you'd consider them as your partners in an alpha-- remember, national labs and so on are very happy to work in helping you develop new products-- that became a way to get something out quickly.

And I cannot tell you-- that's why this is so important. When you are doing products and services, the world before you are in the marketplace is very different from the world once you have clients, totally different, because here, you're all speculating. Here, there are real people, real clients. Go talk to them, and go talk to people like that.

But what's critical-- and it's the point that Christensen makes-- is that, with something new, you have to position it for the right market. Now, finding the right market is something very different for a more incremental product. And there's a whole literature on market segmentation in internal-- I'm assuming that's a big part of teaching marketing, a new segment market and do all that stuff.

And as Christensen points out, when you are doing incremental things, there is a set of things, price points-- so you're at this price point. Should you go after this price point? I mean, people, demographics, and so on. The problem of applying the marketing that works so well for incremental innovations to disruptive innovations, I would say, in a nutshell, is, part of the definition of something disruptive is, you have no bloody idea where the market will be.

And you have no bloody idea because, remember, the way you do the market segmentation is you get market data. And you ask people, and they give you information and you get data. Imagine, in '94, going around trying to do a market segmentation for e-commerce. I have no idea what you're talking about.

And they would probably say, beyond that, you want me to trust my credit card to somebody over a line that's not even a person? You are out of your bloody mind. So when something is brand new, the reason doing all this stuff doesn't work is because the information you're getting is totally noisy. Please.

AUDIENCE: So many people used to buy things on the phone before [INAUDIBLE].

IRVING WLADAWSKY-BERGER: Yes, catalogues.

AUDIENCE: So it was not very different from that. It was an absolutely new idea to give your credit card number publicly out there.

IRVING WLADAWSKY-BERGER: I think the phone and the brand of the company on the phone is what made a difference. Now, having said that, it should come as no surprise-- you know that we're having, as a guest lecturer, Chris McCormick, who is the CEO of L.L.Bean. He will be our guest lecturer October 25.

And the reason I invited Chris and he accepted is because, in '96, L.L.Bean and Chris, in particular, who was not the CEO at the time, were my biggest partners in launching IBM's e-commerce initiative. Now, to your point, L.L.Bean was totally ready to set up an e-commerce site because, to them, an e-commerce site was such a natural extension from their catalog business.

But remember, most e-commerce sites, especially in the early days of the internet, were brand new businesses. Think of Amazon. It didn't exist before. Think of-- I don't know-- --buying wine over the web. There were all these things. And at the time, people just could not consider that. So it was a market that did not exist.

This is-- I think it's an extremely important point that one of the biggest innovations for your innovative products and services is to find the right markets in which to first bring out your innovation. We were having a discussion before about health care delivery over the internet.

And we were talking about, well, is it for people where they don't want to-- they are, let's say, in Boston, but it's a pain in the ass to go to Mass General or wherever they would go, so they like to do that, versus being in a small village in Vermont or being in a small village in India where you are hours away from health care. And there's no question that the initial markets you pick are going to determine the kind of product and service you bring out.

Even though, at some level, it's all similar, especially at the beginning, you will do things for one segment that the other segment could care less about and vice versa. And picking the right one-- and remember, think of this-- I love this term, the football, because you are going after everything, but you need a foothold before you can grow from that foothold. And picking the right one is extremely important, and it's going to totally impact where you go. Please.

AUDIENCE: I mean, can you talk about some of the specifics of that supercomputing example? I mean, were you giving them the supercomputer in order to build your--

IRVING WLADAWSKY-BERGER: Were we giving them?

AUDIENCE: Yeah.

IRVING WLADAWSKY-BERGER: No, they bought it.

AUDIENCE: They were paying for it? And I mean, were the things you were doing to meet their needs different from what you did when you launched it into--

IRVING WLADAWSKY-BERGER: Well, they were earlier. So that's why I positioned it as alpha because let's say-- let's take a seismic company that's using supercomputers for seismic analysis or engineering simulation. Programming parallel architectures is really a pain. The tools are not very good. In fact, they're still not very good.

At places like a national lab or a university, there are enough people that are comfortable doing this detailed parallel programming, if they can get in return much more improvement for their application. So they are willing to put up with the pain of this detailed programming if the payoff is big enough, which is, you get 10 times the performance for your problems by investing in that.

The research communities, universities, are willing to do that. If you are a seismic company, you're looking for oil, so you want more an application package that does that. So to get to market for those customers, you have to have more is the key vendors that they use for their applications and have ported their applications, optimized them. All that takes time.

And especially members like-- the first machines went from the loading dock to those clients. So for the application vendors, they haven't even had machines to test. So that's why that takes longer to get that.

But our intent at that time was, all along, to expand it. Right now, the market is everything. But it's this point of a foothold, of, we pick the people who were tolerant enough of the quality of what we were able to deliver early, and then we grew from there. And that's why the notion of a foothold is very important.

But if you pick the wrong foothold, a customer that you deliver the machine, and they say, OK, great, Irving-- so when is the software and the tools showing up? You say, oh, well, 12 months. They will tell you, get the machine out of here, or don't send me a bill for 12 months or something. I don't know. They'll be really upset. So you need to find the people for whom what you are able to deliver at this point is fine compared to other people.

Now, the reason this is such a problem, often, to establish companies, as they say here, is that, in order to be able to focus and get a foothold, part of it is that-- let's say you do all this publicity, you say all this stuff, and then people say, I'm not ready for you yet. And people don't like to say that. If you have an installed base, you want to go after everything.

So often, when you're a large company and get part of the discussion of, go after large market, serve you your whole customer base, saying no, saying, we're not going to do this, is a huge fear. And so you'll go ahead and do it, and often with disastrous consequences.

I mean, just to give you an example, in '95, a commercial customer bought one of our parallel supercomputers to do a scalable database for SAP. If you know anything-- ERP applications usually have a shared database. And it's shared, then you have the frontend is the applications, and they are more scalable. And then you have the presentation services.

The problem is, sharing data over a parallel architecture is really difficult. And in fact, to this day, it doesn't work. If you want to share data, you should have a good SMP system, which means a Shared Memory System. Otherwise, it just doesn't work.

So we shipped the machine because we didn't have a good SMP, and the client team [INAUDIBLE] such a great client. We need to do that. And a few months later, we had to eat crow, take the machine back, and help them port to a [INAUDIBLE] machine because the customer relationship was so important. And the good news is, because we handled that transition so well, a few years later, we now had very good SMPs, and we won the business. This time, this [INAUDIBLE] from that company have grown a lot.

But that's a very good example. We just oversold it. I don't know how else to say that. And we oversold it for this-- well, how can you say no? Well, you can say no because the damn thing doesn't work for them. And if you're a small company, you're more sensitive to what you can do, what your limits are. You don't have all this stuff.

And another big issue with focusing initially is the demand to quantify the opportunity, which we talked a little bit about before, that the financial-- the people you're making business cases-- well, how big is the market? Now, the reality-- this is the reality-- is that-- let me say something, and I really don't mean it, even if it gets captured on the podcast.

You may as well invent the numbers because there's no data. This is brand new. So you can put together a whole business model, and you can hire consulting companies, pay them gigantic amounts of money, but there's no data. It's a market that doesn't exist.

So you almost-- I mean, I shouldn't have said that. You should never make up numbers. But the quality of the numbers that you're giving the financial community for your business case is as good as if you had made them up. And it's because of the lack of numbers.

And again, I think that when you make a case in the more visible world, there is more of-- because, as we discussed before, people are more used to risks, then they are more tolerant of a business model that has big risks in it. And you can be more honest with-- well, you have to be more honest because the expert you're talking about at the VC company have been around, and so they know how to validate what you're telling them.

I find usually, in big companies, the financial communities are totally geared to incremental extensions of existing businesses, and they have no idea how to run any other businesses. And then, usually, you have great relationship with channels and things like that, and they will straitjacket you. They will want the product, and you said, wait a second. This is a goddamn parallel machine. You don't have any experience with that. And they will want to do that. So it is one of the issues that puts the companies in a straitjacket.

Another extremely important point is, you pick new markets, but then you want to pick customers that will want your products and that you can have for yourself. And selecting customers here is extremely difficult and very, very important.

In the case of parallel architectures in supercomputers, the reason the research labs wanted it is because they were able-- there was a big national initiative for parallel supercomputing, and they could get funding from Washington to acquire parallel machines and work hard to solve what people call grand challenge problems, that is, problems-- think of genomics analysis or things like that that the present machines couldn't possibly address. So they were pushing the envelope anyway, and the only way they could even begin to address the computing capacities they needed was to get parallel architectures.

Remember, that was a brand new market. Well, how many people want genomics analysis? Well, nobody has any idea what genomics analysis is. So that's a research problem. So working with the people who have the need in the research community was a good entree, and eventually, one was able to back it up.

But trying to go after the existing customer base with the new products-- as I said, the first time they ask you, well, how many packages that I used today? NASTRAN for structural analysis, M-Crash for crash simulation-- these are all engineering packages. Do you have-- I'm sorry. I don't have any of them. Why are you here? When you get them, come back. And of course, we did. But first we had to work in getting them.

And Christensen and Raynor have a very important point, which is, the ideal new customers to get are people who could not have gotten what you offer before you showed up. So you're competing with no one. You're giving them a brand new thing.

Now, let's talk about some examples of a product or a service that, when it showed up, was just brand new, so it had the market to itself-- any comments from you all?-- that has of non-consumption quality? Please.

AUDIENCE: Segway.

IRVING WLADAWSKY-BERGER: Segway, yes. Segway-- I don't think we can claim success here.

AUDIENCE: Yeah.

IRVING WLADAWSKY-BERGER: So Segway-- what we don't know is whether it will remain a non-consumption. We don't know that yet. But I agree totally. Segway is in that category.

By the way, what I'm expecting will happen is-- I don't know if Segway is the one that will make it, but maybe somebody will figure out the personal mobility thing like Segway that will have the good qualities of Segway and will eliminate whatever is not [INAUDIBLE]. Please.

AUDIENCE: PayPal.

IRVING WLADAWSKY-BERGER: Perfect, PayPal. PayPal is perfect. Yep, Pay-- It was brand new. Now, there are competitors to PayPal now. Am I correct? Doesn't Google have a--

AUDIENCE: There were at the time, and then Western Union started [INAUDIBLE].

IRVING WLADAWSKY-BERGER: But doesn't Google have a PayPal-like competitor?

AUDIENCE: Yeah, Checkout [INAUDIBLE].

AUDIENCE: Yeah, Google checkout.

IRVING WLADAWSKY-BERGER: Yeah, please

AUDIENCE: [INAUDIBLE] about People's Express, which sort of is [INAUDIBLE] being on Southwest [INAUDIBLE] cheap airlines.

IRVING WLADAWSKY-BERGER: Yeah. Yeah, that was very good. And notice, one of the interesting things that, when a brand new company finds a market and a set of customers nobody knew existed, you only have it for a little while because, first, the big boys will come after you, as you know they did with People Express. And second, when we look at the airline industry, others will copy you. And so you only have this for a while, and then you have to keep innovating.

AUDIENCE: I was thinking about Napster, but maybe [INAUDIBLE].

IRVING WLADAWSKY-BERGER: But which version? There were two versions of Napster.

AUDIENCE: Not the more legal one. But maybe BitTorrent, which has now been a--

IRVING WLADAWSKY-BERGER: Yeah, it could be. How about iPod? Would you say iPod was a market that Apple discovered, and that's why it took off? What would you say?

AUDIENCE: iTunes plus iPod.

IRVING WLADAWSKY-BERGER: When I say iPod, I don't think there is iPod with iTunes. In fact, in my opinion, what makes the iPod successful is how brilliantly Apple integrated iTunes with the-- what is the software on the PC called? It's called iTunes, right?

AUDIENCE: [INAUDIBLE]

IRVING WLADAWSKY-BERGER: No, no, no, it's the iTunes on your PC--

AUDIENCE: ITunes.

IRVING WLADAWSKY-BERGER: --with the music store. Is it also iTunes?

AUDIENCE: Yeah.

AUDIENCE: Yeah.

IRVING WLADAWSKY-BERGER: With the iPad-- the combination of the three, that feels-- do you agree? That's totally new.

AUDIENCE: Yeah, it was the delivery of music from iTunes that really--

IRVING WLADAWSKY-BERGER: That's right.

AUDIENCE: [INAUDIBLE]

IRVING WLADAWSKY-BERGER: --it was the-- and it was this trivial click from iTunes that captured that.

AUDIENCE: Just on the same case with the iPod, they were already existing products out there. In fact, some of them were even better. So I think the way they market them, the way that-- they actually went to the same set of customers. They were not cheaper. The product was not cheaper. In fact, Samsung had similar products, but they were much cheaper. Even then, people actually went more for iPod.

AUDIENCE: It became a fashion statement, sort of marketed it in a different way. It was not something to listen to music, or it was something that you really had to own.

IRVING WLADAWSKY-BERGER: No, no, but is it fair to say that all the MP3 players before, you had to, quote unquote, rip off-- and I don't mean rip off, steal. But you had to, by yourself, put-- don't we call it-- rip off is not the word. What's the word [INAUDIBLE]?

AUDIENCE: Rip.

AUDIENCE: Rip.

IRVING WLADAWSKY-BERGER: It is rip-- not rip off, rip. You have to rip-- that better. I knew that rip off didn't sound right. You have to rip the music from the CD yourself, correct?

AUDIENCE: Right.

IRVING WLADAWSKY-BERGER: And some people-- my daughter, who was a teenager or whatever-- they loved it. I'm assuming MIT undergraduates loved it. But would you agree, that's a very different market than the iTunes market that developed when the delivery became so easy? Would you all agree?

AUDIENCE: I think it's different, but it feels more like they took the existing components-- they took an existing technology, and existing marketing methods, and existing delivery methods, and what their innovation was was kind of combining them.

IRVING WLADAWSKY-BERGER: No, that's true. But I bet you they have in mind the customer set. When they did that-- in other words, the fashion statement-- perfect. Do you think the MIT undergraduates would have bought it for the fashion statement? I don't think so.

I think they went after people that ripping CDs-- that's a pain in the ass. I don't want to do that. But this was totally different. Remember, we know a lot about the technology. They didn't know about the technology. So they made it so easy, so easy that I think it was a brand new market.

AUDIENCE: The user interface stood out.

IRVING WLADAWSKY-BERGER: Yes.

AUDIENCE: And that--

IRVING WLADAWSKY-BERGER: Yeah. But I think it's the same different customers set. Remember, I think that, when you pick markets and customers-- and this gets back to the point that I keep bringing-- you can do that by saying, look, the engineers stay in the lab, build the damn thing, and now you have the marketing people. But that assumes that there isn't a very strong feedback between the market and the product they're building.

My contention is, in most of what we're talking about, when you pick your market, and you decide what things you want to put in your product or service, the two are tightly intertwined, and if not on day one, on day two or three. Would you all agree with that? And the more the people who know about the product are sensitized to the market-- remember, they know what is easy and what's difficult.

Remember, I could have gone in '96 to a customer, and the customer said, well, Irving, I want a website, but I hate TCP/IP. I'm sorry. I don't know how to do that. But what if this customer said, Irving, I want a website, but I like purple. That's good. Let me go back to the lab, and let me talk to our people. I mean, we can do purple in two seconds.

Now, today, we know all that. But don't underestimate how much knowledge about your product is critical to know what is a piece of cake to change, what you can change in and you can have, and what is like asking you to do the internet without TCP/IP. You may as well ask me to go faster than the speed of light. You cannot do that. So it's a very interesting interplay. Yes, please.

AUDIENCE: [INAUDIBLE] is Apple is very good as a company with engineering experience, rather than engineering a piece of hardware.

IRVING WLADAWSKY-BERGER: Precisely. Perfect.

AUDIENCE: [INAUDIBLE]

IRVING WLADAWSKY-BERGER: No, no, no, perfect. I love the way you put it, engineering experience, which, in my mind, is a market strategy. That starts bringing engineering with market strategy.

AUDIENCE: There's another--

IRVING WLADAWSKY-BERGER: That's a very good way to say it.

AUDIENCE: Because the iPod took off. What was limiting its penetration in the-- there's a thought process that says, what was limiting the iPod penetration in the marketplace was not the-- it was the attractiveness of the unit, but it was people's grasping the concept of why they needed that, which is wild.

IRVING WLADAWSKY-BERGER: Yes, yes.

AUDIENCE: I understand [INAUDIBLE].

IRVING WLADAWSKY-BERGER: No, no, right. But that's the beauty of getting to the marketplace early because the only way to do what you said was to be in the marketplace and have people love what you have. That's your point, that once it's out there, it almost became viral. Is that the point?

AUDIENCE: Yeah, well, if you're introducing a piece of hardware that's better than anyone else's, people already understand what it does. If you introduce a computer that's twice as fast as everyone else's, it's a different dynamic in the marketplace than if you introduce something which is completely foreign to people.

IRVING WLADAWSKY-BERGER: No, I understand.

AUDIENCE: They have to absorb a whole concept.

IRVING WLADAWSKY-BERGER: No, I understand. I understand totally. How about Netflix? Let's talk about a service. Would you agree that that was-- you all know what I mean, Netflix? Does it have this quality of-- I mean, was Netflix just, OK, so there is the video stores, Blockbuster, especially, and Netflix went after them. But you didn't have to go to Blockbuster. What's your views of that? And I'll tell you my view of Netflix.

AUDIENCE: Well their business model was different than Blockbuster's. Blockbuster only gives you the top few movies that are out there.

IRVING WLADAWSKY-BERGER: Exactly, exactly. And do you all know about the long tail? Do you know what I mean by the long tail? I think Blockbuster was-- by definition, they had to be in the fat part of the long tail. Netflix was-- you can have anything.

Now, if you had gone to ask people, well, do you want an internet service that services the long tail? Well, first of all, the article "The Long Tail" didn't come out after Netflix. In fact, Netflix, I bet you, was one of the reasons for the article in-- where was the article published? It will come to me-- one of the internet journals.

AUDIENCE: I think it was *Red Herring.*

IRVING WLADAWSKY-BERGER: It was *Red Herring*-- one of them. Yeah. And nobody knew that, once you made it very easy to get Bollywood movies, and Chinese movies, and Hollywood classics, people would start getting them. Nobody knew that. It turns out, people are doing that.

That's a very good example of discovering a market that people didn't know. Now, what I don't know-- maybe some of you know-- is, did Netflix know that on day one, or were they competing with Blockbuster, but then when they found out about the long tail, they say, yeah, that's the market, so screw Blockbuster-- let's go here? Go ahead. Make your point, and then I--

AUDIENCE: I think they also changed the consumption habits. So with Blockbuster, you would have a card, but you don't have to keep going there and get it every week or every month. You could just take one now and then another one, say, five months down the line. But with the model that they have, you sign up for a monthly package, and you keep getting it.

IRVING WLADAWSKY-BERGER: Actually, now that I remember-- I remember now what Netflix said was the key thing they were going after, and it wasn't the long tail. Go ahead, please.

AUDIENCE: So one of the things that people-- if you rent or something, you have to return on time. Otherwise, you have to pay [INAUDIBLE].

IRVING WLADAWSKY-BERGER: Perfect. That was it.

AUDIENCE: [INAUDIBLE]

IRVING WLADAWSKY-BERGER: No, no, perfect. I remember Netflix's initial pitch was fines. And people were really upset at the huge fines they were paying. Am I not correct? And so they got rid of fines through the model of the rental thing. They got rid of fines, and then they probably then discovered the long tail. That's what I would expect.

Let me tell you-- this is a very interesting story. I've been very involved with the whole virtual world and *Second Life* story. Do you all know what *Second Life* is?

AUDIENCE: Yeah.

IRVING WLADAWSKY-BERGER: *Second Life* is a massively multiplayer online game, but it's not a game. It's an environment with avatars. Do you know what an avatar is? [INAUDIBLE]. And I know the people from *Second Life* very well, the head of it and the CTO, Cory Ondrejka, and others.

And I was talking to them one day, and they said they started with this *Second Life,* just create an environment, and it was going nowhere. And then one day, they noticed that people that were using *Second Life*-- this is like [INAUDIBLE] one or two-- were building their own stuff in *Second Life.*

Now, I don't know if you know-- what really differentiate *Second Life* from *World of Warcraft* or most other massively multiplayer online games is that, in *Second Life,* you can build buildings and all kinds of things yourself, whereas in all the other ones, the vendor pre-built almost everything for you. That's the biggest difference with *Second Life.* Do you all know what I'm talking about?

But they told me that their plan had been, we will create an environment, but we'll put things for the people. But they also said, we won't make the tools proprietary. But then they woke up one day, and they found out that people were building their own stuff. And they say, how can anybody be doing that because our tools are so incredibly primitive?

And then they found out that people were holding courses in *Second Life,* teaching each other how to use these primitive tools. So all of a sudden, organically, they discovered their business model, that what the users of *Second Life* wanted was-- what they loved about it is, unlike everything else, they can build things. And the fact that it was almost impossible to do it for most people-- it's gotten much better since.

The early adopters taught each other. Remember, there were no manuals. There was no anything. And what Cory and Phil said is, their business model changed. They had a board meeting. And all of a sudden, they had a totally business model.

No, but this is very important. A reason to get from the lab to the marketplace very quickly with something new is because that now lets you discover what works in the marketplace, whether it is the long tail in Netflix-- and this is very important also.

You need your technical people to be very close to the marketplace because they may see things that are going on that they [INAUDIBLE] can do that, that the people who are not technical, they just don't know. They don't know the difference between having a website with a purple background and having a totally different HTTP stack. Those are very different things.

Remember, we take for granted that we understand that. But if somebody doesn't know that you cannot go faster than the speed of light, let me come back to you with that as a requirement. You have to know that that's not a good requirement before you understand that. So it's why, in these areas of disruptive innovation and experimentation, it's so important to move quickly.

Let me just only spend a few minutes on this topic because then I want to come back, as I've been doing, with the IBM example of the market innovation. An interesting point-- and I'll go very quickly here. I mean, if this doesn't get communicated well, I won't spend a lot of time on it. You can read this in one of the chapters.

I am very fond-- I'm very fond [INAUDIBLE]. When I talk about innovation, I like to tell people that the key reason you need to innovate is because, otherwise, you die. Now, you can say, well, that's a very fatalistic view of innovation. Why don't you tell them about the wonderful opportunities?

Well, this gets back to the first bullet, which is, if you tell somebody, wonderful opportunities, they'll say, Irving, my business is pretty good. We're doing well. Our customers love us. When we have a chance, we will consider this opportunity.

However, if you tell them, there is an asteroid coming straight at your head, and there are three competitors that already have efforts to take away your customers, then all of a sudden you get their attention. That's the threat. And what's so interesting is Christensen, in this chapter-- I believe it's 5 or 6-- cites studies that have shown that people just react much-- you can get their attention with threats that you can never get [INAUDIBLE]. But these are social science statistical studies that indicate that. And these threats just will catch their attention.

But now Christensen is saying, but be very careful because, if you really scare the bejesus out of the company, you really, really, really scare them and say that we are under threat of having our customers stolen from us, then what they'll say is, oh, my god, we'll do everything to protect our existing customers. And we don't want you to do that because you really want to-- this gets back to the disruptive innovation. Let's go find new customers. We'll continue to serve the existing customers.

But if you scare people enough, they'll say, no, we'll protect the new customers. So he advocates a very interesting approach. And I don't know-- let me give you the glib side of how I interpret what he said. When you're talking to the resource allocation people, scare the hell out of them because you need the money.

This gets back to book 1, *The Innovator's Dilemma.* You are competing with people that-- don't give this idiot the money. Give it to me. And you're saying, this guy will be dead if you don't give me money. So do that. However, you really don't want this guy at all. You just want his money or part of his money.

So once you get the money, and you now want to set up your organization, you now want to say, no, no, this is really a wonderful opportunity to go after new markets, so let's set up an independent unit. You want to execute in a totally different way from the operational business.

So he's saying, you have this balance to strike between the threat and having people be able to let you do your thing for a while because you are not ready for all the attention that a threat would give you. Any comments on that?

AUDIENCE: My comment would be that the people who are responsible for resource allocation are often the same people who are responsible for strategy formulation. It's kind of tough to play both sides.

IRVING WLADAWSKY-BERGER: Well, so you have to be very sophisticated. It's a very sophisticated-- yeah, it's an interesting argument. I brought it up because I find it very interesting. I agree, it's not easy. But it may be that you just have to play it carefully. That's really all I would say. Any other comments?

So now let me switch back to IBM and my experiences with setting up our internet organization. And let me talk about these four factors that we took into account in trying to make decisions about, how do we organize our internet business? What do we need to do?

Remember, we had already made the decision we need to do that. We set up the Internet Division. But trust me, when we set it up-- I mean, when Lou said, let's do an Internet Division, I said, Lou, what's an Internet Division? Well, as a general manager, when you figure it out, of course, you'll come and tell me.

We had no idea. We knew we needed to do something, but we had no idea what it is we needed to do. We also knew whatever we needed to do-- this is December of '95-- was the most exciting thing since sliced bread. But you can only say that so many times before somebody comes back and says, how do I make money from that? And how do the customers make money?

So you need to translate all this excitement. You need to monetize excitement, eventually. You have a honeymoon period of a week and a half where you can be all excited. And after that, you better start working on, how do you monetize it?

So let me go through each of these four points and comment about them. So we have the capabilities and the competencies, that is, the organizational capabilities and the competence. Remember the discussion we had at the beginning.

Well, the way we frame the internet-- and it worked-- was that this was just the evolution of the IT infrastructure. That's the way we framed it. By the way, not everybody was framing it that way. A lot of people said, here is IT, legacy crap. Leave it alone. Here is the internet. Obviously, any new business that had no legacy, that's what they should say.

But we said, no, the internet is just the evolution of the IT infrastructure. Well, guess what IBM's core business was? IT infrastructure-- hardware, software, and services for IT infrastructure. Well, if the goddamn internet is the evolution of the IT infrastructure, we sure as hell need to have the organizational capability to go after it.

And if somebody said, well, but it's TCP/IP versus SNA-- well, first of all, we had enough people who knew TCP/IP. SNA was dying anyway because TCP/IP was killing it. It's a very sad story of mismanagement on IBM's part, how we SN--

AUDIENCE: Same story as Token Ring [INAUDIBLE].

IRVING WLADAWSKY-BERGER: I'm sorry?

AUDIENCE: The same story as Token Ring [INAUDIBLE].

IRVING WLADAWSKY-BERGER: Yeah, it's the same story as Token. That's a very good point. So we have good stories, and we have sad stories. All of us do in everything we do. But we framed this, and everybody got convinced of this, that, ah, IT infrastructure-- then we have to go.

Now, then there is the question-- well, how about your legacy? How about your base? Here you have this legacy-- I don't know-- a trillion dollars. I'm just saying that. I don't mean a trillion dollars of installed [INAUDIBLE]. You said, well, how much hardware, software the customers have that they have acquired from IBM in '96? Since nobody has any idea, assume it's a trillion dollars. And now you're going to start this whole new business?

Well, here is the beauty of the internet and why the internet was so successful. You could relatively easily internet-enable everything. So what do I mean by that? So you know that Federal Express and UPS were letting you track your packages over the internet very early in the game, in '96, correct?

Guess what the transaction systems they were using were that had all the information about what your packages were? Did they rewrite them in two weeks from their mainframes and mainframe software in software called IMS and CICS that were actually developed in the '70s? Of course not.

They kept all that software. But the beauty of the internet, what made the web-- the internet wouldn't have been the internet without this [INAUDIBLE]. In other words, it may have been a good network for research communities, but what enabled it to take off was the ease with which you can internet-enable everything.

But when I say everything, everything. You can internet enable TCP/IP on every product. You can put every piece of software. So in other words, having a legacy was a base to now internet-enable. So it was actually a very positive thing to do.

Now, not every vendor would view it that way because, again, as I said, if you don't have a legacy, then what you should do is go tell people-- now that the internet is here, go get rid of the crap these people have been selling you for years, and let's do brand new stuff. But most customers were relying on this stuff to run their businesses, so they couldn't get rid of it.

And once you internet-enabled everything, then we're very, very happy. In fact, this strategy came out by me and other people observing what-- Federal Express and UPS did it on their own. They didn't ask us to do it for them. We then discovered it, and we said, what a brilliant strategy. Let's make it our strategy. And so we embraced the notion.

AUDIENCE: Question. So when this strategy came out, was it the responsibility of the new business unit--

IRVING WLADAWSKY-BERGER: Yes.

AUDIENCE: --who made this happen?

IRVING WLADAWSKY-BERGER: Yes.

AUDIENCE: Or was it-- so did you not face resistance from the other business units that [INAUDIBLE].

IRVING WLADAWSKY-BERGER: No, no, because-- no, no, but here is the beauty. Let's say you are in the mainframe business. If I went and say, the internet means mainframes are gone, now they would say, you're an idiot. I said, mainframes are wonderful. We can now internet-enable all the mainframes.

So when I had now my marketing internet events, guess who I invited to talk about the internet and mainframe? The head of mainframe divisions in Stanford at the time was one of my speakers at one of our first meetings in San Jose in the-- there was a big internet event-- because this would only add value to the mainframe. Do you understand my point?

AUDIENCE: But I was curious about who-- the developers from the mainframe group or from your group?

IRVING WLADAWSKY-BERGER: No, a combination. But remember, the nice thing about technical people, really good technical people, is they smell good stuff way before anybody else. And I know I'm being-- I may be biased because now I'm talking about the world that I come from.

But really good technical people, usually, even if you say, don't do that-- we don't want you to do the internet with Linux. They usually are part of a professional community. They have friends in universities. They hang out in conferences there. So you can tell them whatever you want to, and they'll do-- I'm talking about good people.

So smart management of good people is to figure out what they are doing and embrace it as your strategy. So the good people were already internet-enabling all the products without anybody ever telling them. This is a real interesting story, not about the internet.

Later on, I ran our Linux initiative. And I remember I met, in Germany, with some executives from SAP. And we were having lunch, and they told me that-- I don't know-- six months earlier, they had been to IBM's lab in Germany, Böblingen, near Stuttgart. And they had seen that the people in Böblingen on their own had put Linux on the mainframe.

And they said, oh, my god, they'll be fired. I mean, they were really worried that these people that put Linux on the mainframe would be fired because the mainframe is so holy. How can you do that? And I told them, no, no, no, they became heroes in IBM, that, on their own, without anybody telling them what to do, they saw the power of Linux on the mainframe, and they went ahead and did it. And IBM then embraced Linux on the mainframe as a major mainframe strategy.

So what makes this so interesting-- and we'll keep talking through the course-- headquarters is not the real world. It is not. The only reality is what goes on in labs and what goes on in the marketplace. That's the only reality. People build things. People use things. People invent things.

That's why, if you're a really smart business, you use headquarters for counting money and-- I don't know-- whatever the hell they do in headquarters. Yeah, you need headquarters. You need HR policies. And you do need to make the quarter.

But you really pay tremendous attention-- this is, by the way, one of the company values, for example. And IBM has that. But this is an-- because I bet you there are a lot of businesses that say, Irving doesn't know what he's talking about in headquarters with MBAs from Harvard and McKinsey consultants and so on.

They say, boy, are you in trouble today. Maybe that was true in a kinder, gentler time, but in today's world, it's moving too fast. And because it's moving too fast, the labs and-- that's where all the action is. So these were two very positive things.

Then, did it fit with our organization and culture? Well, yes and no because IBM moved very slowly, very, very slowly. And with that comes that, all of a sudden, we were competing with [INAUDIBLE] like crazy. It was crazy. I mean, they often were putting total crap in the marketplace, but you didn't know it was that until they did it.

So this was a problem, that we really had to change the organization and the culture to be able to get things to market much, much, much faster. And we developed new things-- now, the people who were totally in charge of changing the organization-- John Patrick. You can imagine John Patrick doing that, whereas the people who have to run the line, they couldn't do this.

But to Lou Gerstner's credit, the reason John and I and others could do that is because, when we showed up, and we went to do alphaWorks, somebody said, Irving is an idiot. How can you do that? They knew, wait a second. Irving may be an idiot, but Lou Gerstner is not an idiot, and he's the one who empowered these people to do what they are doing.

So we'll talk toward the end of the course on organization and culture. Everybody in an organization reads tea leaves, and they know, is it dangerous to hang out with Irving and John Patrick, or is it OK, and in fact, the boss likes them? And the signals you send are extremely important because the senior team, especially CEO and so on, are empowering people to go and make change, and people read tea leaves.

So we had to change that. And John Patrick talked about alphaWorks, remember. There were a whole set of things that we had to invent that we did that. Now, lawyers being like alphaWorks, P. But again, well, I guess Lou told them to do that. Lou may not know what he's doing, but he's the chairman, so we better do it. Please.

AUDIENCE: So if one's in a position like Lou is in, where you basically have to decide whether to empower someone to be disruptive and change the organization, what do you actually look for in terms of deciding if the person you're empowering is actually [INAUDIBLE]?

IRVING WLADAWSKY-BERGER: Well, let me, again, talk about-- Lou knew that I had been very involved with the mainframe business, and I had run a lot of things. So he knew that I would only be revolutionary up to a point.

So part of the reason of entrusting senior people is that-- again, this gets back to being part of the company values and so on, that part of what makes you-- remember, I'm not talking about seniority with hierarchy, but that understand is, you know your limits. And not just your limits-- you know how far you can push things before all hell breaks loose. You have to be careful.

Also, we had lots of communication. I'll get to that again in a second. We had constant meetings-- I don't mean constant meetings. I saw Lou and the top senior team in IBM once a quarter in the first two years, at least once a quarter. And we had a lot more communications than that, so that if I ever went too far, we can have the discussions and rein it in.

But part of this is-- see, most businesses-- this is disruption crap. It's not making money. Put this young person that is brilliant, but he screws it up, she screws it up. The problem is, you're playing with fire, or you're setting up this person for failure before that person even started because, if it's somebody too junior, she will be afraid-- she will just self-censor far more than they could, whereas John and I had been there for a while, and we had pretty good batting averages from previous jobs.

So that's why putting senior people to handle disruptive innovations is so critical. I'm expecting, if you are a VC and somebody comes to you with a new idea, don't you make similar judgements about the management team? You have to, right? Part of the judgments you make is not just, is the person smart? We me assume that everybody-- I mean, if somebody said, well, he's an MIT graduate. Well, shit, every MIT graduate is smart.

So the qualities you're looking for are not classic smart. You're looking now-- I would still call it smart, but it's, they have tremendously good organizational skills, tremendously good market sense. They are good in dealing with people. And that takes a lot of smarts. Yes, please.

AUDIENCE: Would you agree if I said that IBM was able to make a lot of money out of their internet strategy because IBM had a huge customer base of mainframes, which were essentially black boxes, and only IBM knew how to connect them to the web? So if these companies wanted to get on the web, and they had to ask IBM to come help them, and that's how--

IRVING WLADAWSKY-BERGER: Definitely, I would say yes, but it's not that black and white because other companies could also connect. So we were not-- remember, open standards, open store--

AUDIENCE: No, but the mainframe weren't open standards.

IRVING WLADAWSKY-BERGER: No, but-- right. Yeah. Yes. I think IBM-- what you said is true. I mean, it's not worth-- because you can understand, it's a more-- yes, you're absolutely right, that that's true. And it wasn't just the mainframes. It was also the software, the transactional software. It was everything that could connect. Anybody have a question?

AUDIENCE: That example that you gave about one of your [INAUDIBLE] Linux on mainframe, would that kind of behavior be tolerated in the marketing organization part, or would that kind of behavior will be encouraged in the marketing organization or other parts of the company?

IRVING WLADAWSKY-BERGER: What a very good question. This is a values, where now, I think that the technical community in IBM has a special role. For example, on Monday, I'm going, even though I'm only emeritus, but we have a meeting of the IBM Academy of Technology, which is an incredibly respected group by everybody. And the people who put Linux on the mainframes, we knew they were brilliant people.

I think the short answer is, not to the same degree, that there is a respect for technical credentials that is huge. And that's probably part of the company value. There's just this huge respect. Yeah, whether for good or bad-- actually, I think it's good. But it's an arrogant statement to say that that's the world.

Now, IBM used to pay horrible in marketing. IBM has gotten infinitely better in marketing, much, much better. But still, the technical community has a special place, I would say. Yes, please. Do you agree with that?

AUDIENCE: I agree, but I'm trying to translate it to other-- we talked about Apple and how they're--

IRVING WLADAWSKY-BERGER: Yeah. No, Steve Jobs has a pretty good technique.

AUDIENCE: Well, maybe that's not the-- take a company like Coca-Cola that's really known for marketing their--

IRVING WLADAWSKY-BERGER: No, I understand.

AUDIENCE: Are there other companies where-- IBM is the [INAUDIBLE].

IRVING WLADAWSKY-BERGER: By the way, I think Microsoft has tremendous respect for their technical people, starting with Bill Gates. I mean, what the hell is he? He prides himself on being the chief architect. And I know he says he's retiring [INAUDIBLE]. He'll be chief emeritus architect. But I bet you, he'll be-- are there other companies--

AUDIENCE: [INAUDIBLE] do they let their marketing people do the equivalent of putting Linux on a mainframe?

IRVING WLADAWSKY-BERGER: I don't know. I honestly-- that's a very good question. What do you think? I mean, you've all been around in your companies. What do you see?

AUDIENCE: I would say less so because putting Linux on the mainframe isn't something that's affecting customers when they do that. And usually, in a marketing position, they're customer-facing. So I think there's a difference between a customer-facing role and [INAUDIBLE].

IRVING WLADAWSKY-BERGER: Yeah, that's a very good point. They didn't go to a customer and put Linux on their mainframe. They put Linux on a mainframe in IBM's lab in Germany. And later on, we took that to customers. But when we took that to customers-- we'll talk, in a couple of weeks, on leading customer-based innovation, which is Eric von Hippel's book.

Eric, by the way, is [INAUDIBLE] thesis sponsor. And Eric has done a lot of research about leading-edge customer innovation. I really recommend you read this book. And by the way, Eric-- this is now Eric's view of the world. His book is on the website, and you can download it for nothing because he believes in open content. But buy it. He's a very good person.

I would recommend reading *Democratizing Innovation* because it addresses exactly-- we'll discuss that in class. And Eric very nicely lent me his slides, so I have his own slides to talk about his ideas. But he talks about a whole set of companies that do that.

And it's the market-- it's still experimentation. And I don't know whether-- we now can get into questions. Is market experimentation done by the marketing people or by technical people who are working in the market? By the way, we have, for example, in the IBM Academy of Technology, an increasing number of the technical people are market-facing. So we now get into, what do you mean by marketing? By somebody in the marketplace, which is an interesting point.

So let me now talk about the last point here. Remember, we've talked about three, which is, do we have brand permission to have an internet presence? And the answer was yes and no, as it turns out.

And that's why I invited Chris Wall, who spent hundreds of millions in the marketing campaign because of exactly that point. We didn't have the brand permission, and especially when we started in '95, '96, remember, we had just come from this near-death experience.

So it's like, IBM and the internet companies [INAUDIBLE] exploding brain. Netscape-- you guys are-- I don't know what you are. I didn't even know you were alive. But we had to work extremely hard at the brand formation, extremely hard.

In fact, I would say that the internet organization and me, personally, I would say I spent the bulk of my time here, in the market strategy and in getting acceptance because, almost everything else, you could almost say other people could also do. This, you cannot do part time.

So this was probably what we spent the bulk of the time doing. And that's why I got so involved in marketing because I would say marketing-- in market strategy, which Lou Gerstner defined as, market strategy means, develop a strategy to be successful in the marketplace. Now, you could say, well, what other strategies should you ever develop other than a strategy to be successful in the marketplace? That's a market strategy, which is not the same as advertising or something like that.

So I think this is a slide from '96. I started using this slide in '96, which I think, in my mind, was seminal in helping us figure out what our internet strategy was. Remember, this, we didn't invent. This is the internet and Java and all the buoys out there that existed. And that stuff is all the legacy stuff.

And where we positioned IBM was, we're the ones who will bring these two together. That's where we positioned ourselves. And in retrospect, it was brilliant positioning because, first of all, all the reasons we talked about before-- if all of a sudden-- I think somebody asked if the reason the mainframes and so on-- all of a sudden, the rest of the company loved us.

Remember, we never said, this stuff will replace all this crap. We never said that. That would have been suicidal to have said that. I don't mean just mean suicidal organizational. Remember, this was making zero money. All the money is here. This was a huge sink of money initially. And of course, that money came from the money that was generated up there.

So the last thing you want is to devalue your install base. I think, by the way, that's what the old AT&T did wrong. The old AT&T, this was cable and wireless. I don't know if you remember. They acquired McCaw. And how did they acquire acquired the cable-- Mike Armstrong made a number of acquisitions in the old AT&T, and their legacy business was telecommunication services for business and long distance.

They took totally their eye off the-- they took their eye off the ball here. And the problem is, they ran out of cash there before these businesses started generating cash. So you don't want to fall into that gulf, where yes, you called the right long-term strategy, but unfortunately, you ran out of cash before you could get there. I mean, that's not a good idea.

So this really is what we ended up doing. Now, we'll come back to this slide next week, but I just wanted-- I tried to summarize what I thought was something very important that worked for us, which is this question of balance, that we embrace the disruption, but probably in a very different way than Amazon or eBay or other companies. I could have probably done a slide like this for Microsoft that would be very similar.

And it was a balance. So we leveraged the organizational skills and talent because, after all, this was the IT infrastructure. But we had to make major cultural and organizational changes because there were serious problems like time to market with actual threats. We leveraged the legacy. I skipped over that slide, but I'll talk next week. We had to embrace open standards. You couldn't be an internet company if you did not embrace oper standards and totally shift it.

We leveraged the brand, but we had to totally reposition it. That's why we had to spend hundreds of millions. All of a sudden, we said, oh, IBM's brand-- you guys wore white shirts and blue suits. No, no, no, that's 50 years ago. We had to really do massive repositioning.

And then we really had to be in tune with the marketplace. I don't know how else to say that. And that was probably the biggest change, that to really be a successful internet company, all of a sudden, it was critical to be out there and accepted as a member of the internet community, which we did.

But it's this balance between the legacy and what you are that keeps moving future and the whole new disruption-- striking the right balance that I felt was the really, really, really difficult stuff. And that was the part that was why we needed a total organization because this is really the market strategy. That's what we mean by market strategy. And out of this flowed products and services and things like that. So any last questions? I'll see you next Thursday. Thank you.